IN THE CLAIMS

The following is a complete listing of the claims, which replaces all previous versions and listings of the claims.

1. (currently amended) A method for selective handling of image data, the method comprising:

storing data according to a decomposition level index and tessellation block indices, wherein the decomposition level index refers to data sets generated by lossless wavelet decomposition, and the tessellation block indices refer to blocks tessellated from the data sets, wherein the data sets form part of an image data file that is losslessly wavelet decomposed and that is stored in a compressed form on a server ~~prior to receipt of a~~ independent of any request from a client for data of the data sets;

selecting an area of interest of the image via the decomposition level index and the tessellation block indices; and

accessing from the server the area of interest selected via the decomposition level index and the tessellation block indices.

2. (original) The method of claim 1, wherein the decomposition level index corresponds to a resolution level.

3. (original) The method of claim 1, wherein the tessellation block indices comprise a row index and a column index for addressing spatial coordinates of the blocks.

4. (original) The method of claim 1, wherein the lossless wavelet decomposition comprises lossless integer wavelet decomposition.

5. (original) The method of claim 1, wherein the blocks comprise a fixed block size.

6. (previously presented) The method of claim 1, wherein storing data comprises creating a plurality of addressable data blocks comprising a plurality of the blocks.

7. (original) The method of claim 1, wherein each of the data sets comprises a hierarchical set of sub-bands, one set comprising a low frequency component at a lowest resolution level and each remaining set comprising high frequency components at successively higher resolution levels.

8. (previously presented) The method of claim 7, wherein the high frequency components of at least one of the successively higher resolution levels are tessellated into sets of the blocks for each of the high frequency components.

9. (previously presented) The method of claim 8, wherein the decomposition level index corresponds to a resolution level of the respective data sets.

10. (previously presented) The method of claim 9, wherein storing data comprises addressing the blocks for each of the sub-bands.

11. (previously presented) The method of claim 10, wherein the tessellation block indices correspond to spatial coordinates of the blocks within each of the sub-bands.

12. (previously presented) The method of claim 11, wherein selecting the area of interest comprises selecting at least one block of the blocks encompassing a selected area of interest.

13. (previously presented) The method of claim 12, wherein accessing from the server the area of interest comprises retrieving the at least one block.

14. (previously presented) The method of claim 13, wherein retrieving the at least one block comprises retrieving the at least one block for the high frequency components at the successively higher resolution level relative to a current local resolution level at a client.

15. (previously presented) The method of claim 14, comprising combining the at least one block for each of the high frequency components with the current local resolution level to reconstruct the area of interest at the successively higher resolution level.

16. (previously presented) The method of claim 1, wherein accessing comprises reference marking the area of interest using the decomposition level index and the tessellation block indices.

17. (previously presented) The method of claim 1, wherein accessing comprises reconstructing the image in the area of interest using the tessellation block indices to retrieve the blocks selectively from storage.

18. (previously presented) The method of claim 1, wherein accessing comprises selectively transmitting data for at least one of the blocks corresponding to the area of interest using the decomposition level index and the tessellation block indices.

19. (previously presented) The method of claim 1, wherein accessing comprises forming an image data stream comprising data for at least one of the blocks encompassing the area of interest.

20. (previously presented) The method of claim 19, wherein forming the data stream comprises creating an addressable superblock of the data for the blocks using the decomposition level index and the tessellation block indices, each of the blocks for each of the data sets being individually addressable within the addressable superblock.

21. (currently amended) A method for selectively displaying image data, the method comprising:

defining a spatial region of interest within an image based on a plurality of addressable blocks comprising a decomposition level index and tessellation block indices, wherein the decomposition level index refers to data sets generated from the image by lossless wavelet decomposition, and the tessellation block indices refer to spatial blocks tessellated from the data sets, wherein the data sets form part of an image data file that is losslessly wavelet decomposed and that is stored in a compressed form on a server ~~prior to receipt of a~~ independent of any request from a client for data of the data sets;

requesting a spatial group of the plurality of addressable blocks encompassing the spatial region of interest by referencing the blocks by the decomposition level index and the tessellation block indices; and

reconstructing the image within the spatial region of interest using the requested spatial group.

22. (previously presented) The method of claim 21, wherein the decomposition level index corresponds to a resolution level, the data sets comprising a plurality of different resolution levels.

23. (previously presented) The method of claim 21, wherein the tessellation block indices comprise a row index and a column index for addressing spatial coordinates of the spatial blocks.

24. (previously presented) The method of claim 21, wherein the lossless wavelet decomposition comprises lossless integer wavelet decomposition.

25. (previously presented) The method of claim 21, wherein the spatial blocks comprise a fixed block size.

26. (previously presented) The method of claim 21, wherein each of the data sets comprises a hierarchical set of sub-bands, one set comprising a low frequency component at a lowest resolution level and each remaining set comprising high frequency components at successively higher resolution levels.

27. (previously presented) The method of claim 26, wherein the high frequency components of at least one of the successively higher resolution levels are tessellated into sets of the spatial blocks for each of the high frequency components.

28. (previously presented) The method of claim 26, wherein the addressable blocks comprise a sub-band reference for addressing a desired one of the hierarchical set of sub-bands.

29. (previously presented) The method of claim 26, wherein requesting the spatial group comprises requesting at least one block of the spatial blocks for each of the high frequency components at one of the successively higher resolution levels relative to a current lower resolution level of the image data.

30. (previously presented) The method of claim 29, wherein reconstructing the image comprises combining the at least one block for each of the high frequency components with the current lower resolution level to reconstruct the spatial region of interest at the successively higher resolution level.

31. (previously presented) The method of claim 21, wherein requesting the spatial group comprises locating and retrieving each block of the spatial group from a remote storage device based on the decomposition level index and the tessellation block indices.

32. (previously presented) The method of claim 21, wherein requesting the spatial group comprises recalling a local portion of the spatial group from local storage and retrieving a missing portion of the spatial group from remote storage.

33. (previously presented) The method of claim 32, wherein requesting the spatial group comprises tracking local presence or absence of each of the plurality of addressable blocks.

34. (previously presented) The method of claim 32, wherein requesting the spatial group comprises tracking local presence or absence of each of the data sets, which correspond to different image resolution levels of the image.

35. (previously presented) The method of claim 21, comprising reference marking the spatial region of interest using the decomposition level index and the tessellation block indices of the plurality of addressable blocks.

36. (currently amended) A method for tracking image data, the method comprising:

addressing data using a plurality of addressable blocks comprising a decomposition level index and tessellation block indices, wherein the decomposition level index refers to data sets generated from an image by lossless wavelet decomposition, and the tessellation block indices refer to spatial blocks tessellated from the data sets, wherein the data sets form part of an image data file that is losslessly wavelet decomposed and that is stored in a compressed form on a server ~~prior to receipt of a~~ independent of any request from a client for data of the data sets;

tracking presence or absence of the plurality of addressable blocks at a client via at least one tracking indicator; and

handling data communication between the client and a server via the decomposition level index, the tessellation block indices and the at least one tracking indicator.

37. (previously presented) The method of claim 36, wherein the decomposition level index corresponds to a resolution level, the data sets comprising a plurality of different resolution levels.

38. (previously presented) The method of claim 36, wherein the tessellation block indices comprise a row index and a column index for addressing spatial coordinates of the spatial blocks.

39. (previously presented) The method of claim 36, wherein each of the data sets comprises a hierarchical set of sub-bands, one set comprising a low frequency component at a lowest resolution level and each remaining set comprising high frequency components at successively higher resolution levels.

40. (previously presented) The method of claim 39, wherein the high frequency components of at least one of the successively higher resolution levels are tessellated into sets of the spatial blocks for each of the high frequency components.

41. (previously presented) The method of claim 39, wherein the addressable blocks comprise a sub-band reference for addressing a desired one of the hierarchical set of sub-bands.

42. (previously presented) The method of claim 36, wherein tracking comprises tracking local presence or absence of each set of the data sets, which correspond to different image resolution levels of the image.

43. (previously presented) The method of claim 36, wherein tracking comprises toggling a Boolean flag.

44. (previously presented) The method of claim 36, wherein handing data communication comprises requesting a spatial group of the plurality of addressable blocks, as needed based on the at least one tracking indicator, by referencing each block of the spatial group by decomposition level index and tessellation block indices.

45. (previously presented) The method of claim 44, wherein requesting the spatial group comprises requesting at least one block of the spatial blocks for each high frequency component of at least one of the data sets, the at least one having an image resolution relatively higher than a local portion of the data sets stored at the client.

46. (previously presented) The method of claim 36, comprising displaying the image within a spatial region of interest using the data that has been addressed, tracked and handled.

47. (previously presented) The method of claim 46, wherein displaying the image data comprises combining at least one of the spatial blocks for each high frequency component of at least one set of the data sets with a low frequency component formed by at least one different set of the data sets, the at least one set having a higher image resolution than the at least one different set.

48. (previously presented) The method of claim 46, comprising reference marking the spatial region of interest using the decomposition level index and the tessellation block indices of the plurality of addressable blocks.

49. (currently amended) A system comprising:

an interface comprising:

an addressing module configured for addressing image data using a plurality of addressable blocks comprising a decomposition level index and tessellation block indices, wherein the decomposition level index refers to data sets generated from an image by lossless wavelet decomposition, and the tessellation block indices refer to spatial blocks tessellated from the data sets, wherein the data sets form part of an image data file that is losslessly wavelet decomposed and that is stored in a compressed form on a server ~~prior to receipt of a~~ independent of any request from a client for data of the data sets; and

a tracking module configured for tracking presence or absence of the plurality of addressable blocks at a client via at least one tracking indicator; and

a memory device configured to store the plurality of addressable blocks.

50. (previously presented) The system of claim 49, wherein the decomposition level index corresponds to a resolution level, the data sets comprising a plurality of different resolution levels.

51. (previously presented) The system of claim 49, wherein the tessellation block indices comprise a row index and a column index for addressing spatial coordinates of the spatial blocks.

52. (previously presented) The system of claim 49, wherein each of the data sets comprises a hierarchical set of sub-bands, one set comprising a low frequency component at a lowest resolution level and each remaining set comprising high frequency components at successively higher resolution levels.

53. (previously presented) The system of claim 49, wherein the tracking module is configured for tracking local presence or absence of each set of the data sets, which correspond to different image resolution levels of the image.

54. (previously presented) The system of claim 49, wherein the tracking module comprises a display tracking module configured for tracking displayed images that are reconstructed from the data sets by using the addressable blocks, each of the data sets corresponding to a different resolution level of the image.

55. (previously presented) The system of claim 54, wherein the display tracking module comprises a region tracking module configured for tracking a spatial area of interest within the displayed images using the addressable blocks.

56. (previously presented) The system of claim 49, wherein the tracking module comprises a reference marking module configured for reference marking a spatial area of interest identified by the addressable blocks.

57. (previously presented) The system of claim 49, wherein the interface comprises a communication handling module configured for selectively communicating the data between the client and a server via the decomposition level index, the tessellation block indices and the at least one tracking indicator.

58. (previously presented) The system of claim 57, wherein the communication handling module comprises a selective retrieval module configured for retrieving at least one of the plurality of addressable blocks as needed for image reconstruction based on the at

least one tracking indicator, the decomposition level index and the tessellation block indices.

59. (previously presented) The method of claim 49, wherein the interface comprises an image reconstruction module configured for combining at least one of the spatial blocks for each high frequency component from at least one set of the data sets with a low frequency component formed by at least one different set of the data sets, the at least one set having a higher image resolution than the at least one different set.

60. (previously presented) The system of claim 49, wherein the interface comprises a decompression module configured for decompressing each of the addressable blocks.

61. (previously presented) The system of claim 49, wherein the system comprises a picture archiving and communication system.

62. (previously presented) The system of claim 49, further comprising one or more imaging systems.

63. (previously presented) The system of claim 62, wherein the one or more imaging systems comprise an MRI system.

64. (previously presented) The system of claim 62, wherein the one or more imaging systems comprise a computed tomography system.

65. (previously presented) The system of claim 62, wherein the one or more imaging systems comprise a positron emission tomography system.

66. (previously presented) The system of claim 62, wherein the one or more imaging systems comprise a radio fluoroscopy system.

67. (previously presented) The system of claim 62, wherein the one or more imaging systems comprise a computed radiography system.

68. (previously presented) The system of claim 62, wherein the one or more imaging systems comprise an ultrasound system.

69. (currently amended) A computer program product comprising:

a machine readable medium;

an addressing module stored on the machine readable medium, wherein the addressing module is configured for indexing data by decomposition level and spatial coordinates of tessellation, wherein the decomposition level refers to data sets generated from an image by lossless wavelet decomposition, and the spatial coordinates refer to blocks tessellated from the data sets, wherein the data sets form part of an image data file that is losslessly wavelet decomposed and that is stored in a compressed form on a server ~~prior to receipt of a~~ independent of any request from a client for data of the data sets; and

a tracking module stored on the machine readable medium, ~~comprising~~ comprising:

a tessellated block tracking module configured for tracking presence or absence of each of the plurality of addressable blocks at a client via a first Boolean flag; and

a decomposed level tracking module configured for tracking complete presence or complete absence of each of the data sets at a client via a second Boolean flag.

70. (previously presented) The computer program product of claim 69, wherein the decomposition level corresponds to a resolution level, the data sets comprising a plurality of different resolution levels.

71. (previously presented) The computer program product of claim 69, wherein the spatial coordinates comprise a row number and a column number for spatially identifying blocks of the tessellated data sets.

72. (previously presented) The computer program product of claim 69, wherein each of the data sets comprises a hierarchical set of sub-bands, one set comprising a low frequency component at a lowest resolution level and each remaining set comprising high frequency components at successively higher resolution levels.

73. (previously presented) The computer program product of claim 69, wherein the tracking module comprises a region tracking module configured for tracking a spatial area of interest by referencing the data that is indexed by decomposition level and spatial coordinates.

74. (previously presented) The computer program product of claim 73, wherein the tracking module comprises a reference marking module configured for reference marking the spatial area of interest by decomposition level and spatial coordinates.

75. (previously presented) The computer program product of claim 73, wherein the interface comprises a communication handling module configured for selectively communicating the spatial area of interest between the client and a server based on the decomposition level and spatial coordinates.

76. (previously presented) The computer program product of claim 69, wherein the tracking module comprises an ordering module configured for handling the data in a desired order based on the decomposition level and spatial coordinates.